

YOR920000831US1 **AFTER FINAL: EXPEDITED ACTION** 00280683aa  
Amendment dated 05/07/2007 Reply to office action mailed 03/01/2007

**REMARKS**

Claims 1-27 are currently pending in the application. By this amendment, claims 4, 5, 15, 16, 25 and 26 are amended and the balance of the claims are canceled without prejudice for the Examiner's consideration. The foregoing separate sheets marked as "Listing of Claims" shows all the claims in the application, with an indication of the current status of each .

The Examiner's indication that claims 4, 5, 15, 16, 25 and 26 contain allowable subject matter is acknowledged with appreciation.

The Examiner's indication that the earlier rejections under 35 U.S.C. §101 and 35 U.S.C. §112, second paragraph, have been overcome is acknowledged with appreciation.

The Examiner rejects claim 22 and its dependent claims for non-statutory obviousness type double patenting over claim 1 of U.S. Patent No. 7,085,837. However, the present invention and the '837 patent have significant differences, and the question is whether these differences are reflected in claim 22. That is, if claim 22 includes subject matter not obvious from the '837 patent, then the ground of rejection must fall.

Both the '837 patent and the present invention address dynamic resource allocation. However, the solution developed in the '837 patent assumes that future benefits are known. This assumption is reflected in the title of the '837 patent and throughout the disclosure. For example, the following disclosure appears in the present invention but not in the '837 patent: at page 1, line 17, the present invention assumes "limited information regarding future loads" whereas the '837 patent assumes "full information regarding future loads" (col. 1, line 14); at page 2, lines 22-25, the present invention recognizes that the problem of "utilizing the available servers in the most profitable way" (page 2, lines 21-22; col. 1, lines 48-49) is made

more complex by “the fact that the future load of the sites is either unknown or known only for the very near future”.

Consequently, the method of the present invention uses an allocation approach that discounts the value of a potential future benefit in comparison with a guaranteed immediate benefit (page 4, lines 1-8). The limited extent of knowledge of future benefits is reflected in use of a *lookahead* model, which requires some forecasting mechanism to predict future demands during a predetermined number of time intervals (page 5, lines 5-17). Disclosure of these considerations is not present in the ‘837 patent. Indeed, the method of the ‘837 patent “is based upon a minimum-cost network flow problem” (col. 2, lines 20-21) as further detailed in connection with Figs. 3 and 4 of the ‘837 patent. It should be noted that this approach of the ‘837 patent and these figures are not present in the disclosures of the present invention.

Because of the more restrictive assumptions of the present invention, the object is to choose a state for each interval so as to “maximize the total benefit gained” (page 5, lines 22-23; page 9, line 18) as opposed to the ‘837 patent where the benefit function is known in advance (col. 2, line 67). It will be observed that from this point forward in their respective disclosures the ‘837 patent (col. 5, line 6, to col. 7, line 3) and the present invention (page 10, line 9, to page 26, line 6) are quite different. It should be emphasized that the more limited information available under the present invention produces an extensive discussion – not present in the ‘837 patent – of implementation alternatives where the future is not known.

An examination of these differences shows that where the ‘837 patent reduces the solution to a minimum cost network flow problem solvable in polynomial time, the present invention pursues a solution to its more restricted problem using online algorithms with lookahead that discount future benefits. It will be observed that claim 1 of the ‘837 patent contains a final limitation relating the minimum cost

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network flow problem solvable in polynomial time. This limitation is neither disclosed nor pertinent to the present invention.

Considering claim 22 in light of the foregoing, the applicant contends that claim 22 can be amended so that it claims subject matter not obvious and therefore patentably distinct from claim 1 of the '837 patent, and yet broader in scope than allowable claims 4, 5, 15 and 16 of the present invention.

The Examiner has rejected claims 1-3, 6-14, 17-24 and 27 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2005/0256778 to Boyd et al. ("Boyd") in view of "TCP Dynamic Acknowledgment Delay: Theory and Practice" by Dooly et al. ("Dooly") and further in view of U.S. Patent No. 5,216,593 to Dietrich et al. ("Dietrich"). The applicant's prior arguments regarding the non-obviousness of the invention over Boyd and Dooly are maintained, including the argument that acceptance of the present invention for presentation at a conference by experts familiar with the prior art (and with Dooly, in particular, which had been presented three years earlier at the same conference) refutes the Examiner's indication that the invention would have been obvious over Boyd in view of Dooly to one skilled in the art.

The Examiner acknowledges that Boyd and Dooly fail to disclose the limitation "based on the benefit gained associated with one or more customer demands and implementing the time-varying allocation of resources amongst one or more customers to yield said benefit", and argues that the teachings of the Dietrich reference would make inclusion of this limitation obvious to one skilled in the art. Dietrich teaches a method and apparatus for discrete activity resource allocation (DARA) through cardinality constraint generation. Cardinality constraint generation and the DARA problem have nothing to do with the present invention. At some high level of abstraction, of course, as the Examiner points out, the methods of Dietrich (and many other methods, as well as standard textbooks on economics) teach that minimizing cost and maximizing profits may be characterized as maximizing benefit.

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Dietrich adds nothing to the prior art in this respect. Applicant therefore traverses the Examiner's new grounds of rejection.

However, in order to streamline the further prosecution of this case, the applicant elects to take an allowance of the subject matter indicated as being allowable, and has therefore rewritten claims 4, 5, 15, 16, 25 and 26 to independent form to include all the limitations of the respective base claims and any intervening claims.

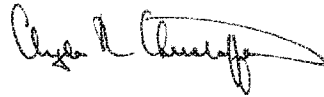
In view of the foregoing, it is requested that the application be reconsidered, that claims 4, 5, 15, 16, 25 and 26 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at 703-787-9400 (fax: 703-787-7557; email: clyde@wcc-ip.com) to discuss any other changes deemed necessary in a telephonic or personal interview.

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If an extension of time is required for this response to be considered as being timely filed, a conditional petition is hereby made for such extension of time. Please charge any deficiencies in fees and credit any overpayment of fees to Deposit Account 50-0510 (IBM-Yorktown).

Sincerely,

A handwritten signature in black ink, appearing to read "Clyde R. Christofferson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Clyde R Christofferson  
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